

THERE IS CLAIMED:

- 1.** A CVD process for producing preforms for dispersion shifted optical fiber or dispersion compensating optical fiber having a core comprising a central portion, an inner cladding, a ring, and an outer cladding, by depositing layers, in which process the layers of said preform corresponding to said inner cladding and to said ring of said optical fiber have a phosphorus content not greater than 0.1 wt%.
- 2.** The optical fiber preform production process claimed in 1 wherein said layers of said preform corresponding to said inner cladding and to said ring of said optical fiber have a phosphorus content from 0.03 wt% to 0.1 wt%.
- 3.** The optical fiber preform production process claimed in claim 1 wherein said layers of said preform corresponding to said outer cladding of said optical fiber have a phosphorus content in the same range of values as said layers of said preform corresponding to said inner cladding and to said ring of said optical fiber.
- 4.** The optical fiber preform production process claimed in claim 1 wherein said layers are deposited at a pressure within 20% of atmospheric pressure.
- 5.** The optical fiber preform production process claimed in claim 1, when said optical fiber is intended to be integrated into a submarine cable.